





## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appli	ication	of
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James Allen Cox et al.

Serial No.:

Filed:

For:

December 29, 2000 Group Art Unit 2872

RESONANT REFLECTOR FOR USE WITH OPTOELECTRONIC DEVICES

130101 (H16-25181)

TAL SHEET

Docket No.:

Assistant Commissioner for Patents Washington, D.C. 20231

Sir:

CE	RTIFIC	ATE	UN	DER 37 C.F.R.	1.8: I hereby certif	fy that this gor	теѕропферсе	is being depos	sited with the United
Sta	ates Post	al Se	rvic	e on the date show	vn below with suff	icient postage	as first class	mail in an env	elope addressed to
				the: Assistant	Commissioner for	Patents Wast	ington, D.C.	20231, on	
					this	day of May,	, 2004/////		
						110	1 111111		
•				By		1/1/1	$\mu_{\text{AHY}}$		

Brian N/Tufte

We are transmitting herewith the attached:

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Amendment
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No additional fee required

The fee has been calculated as shown:

CLAIMS AS AMENDED							
	(3)	(4)	(5)	SMALL ENTITY		OTHER	
	REMAINING CLAIMS	HIGHEST PAID	EXTRA	RATE	ADD'L FEE	RATE	ADD'L FEE
TOTAL CLAIMS	-	=		x9=	\$	x18=	\$
INDEPEN- DENT CLAIMS	-	=		x39=	\$	x78=	\$
( ) FIRST M	+130=	\$	+260=	\$			
TOTAL	· · · · · ·	\$		\$			







A check in the amount of \$\_\_\_\_\_ is enclosed.

Small entity status of this application under 37 C.F.R. 1.9 and 1.27 has been

Small entity status of this application under 37 C.F.R. 1.9 and 1.27 has been established by verified statement previously submitted.

[X] Other: <u>Information Disclosure Statement</u>, <u>PTO Form-1449 and cited references</u>

[X] Please charge any deficiencies or credit any overpayment in the enclosed fees to Deposit Account No. 50-0413.

By: Brian M. Tufte

Reg. No. 38,638

Brian N. Tufte CROMPTON, SEAGER & TUFTE, LLC 331 Second Avenue South Suite 895 Minneapolis, Minnesota 55401-2246

Telephone: (612) 677-9050 Facsimile: (612) 359-9349

MAY 31 2001



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

James Allen Cox et al.

Serial No.:

09/751,422

Examiner Unknown

#4/IDS 6/22/01 C.McKinney

Filed:

December 29, 2000

Group Art Unit 2872

For:

RESONANT REFLECTOR FOR USE WITH OPTOELECTRONIC DEVICES

Docket No.:

1100.1130101 (H16-25181)

**Assistant Commissioner** for Patents

Washington, D.C. 20231

HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL IL IN AN ENVELOPE SERVICE AS FIRST CLASS ) ADDRESSED TO: ASSISTANT ATENTS, WASHINGTON, D.C.

Dear Sirs:

## INFORMATION DISCLOSURE STATEMENT

Pursuant to the obligations of candor and good faith imposed by 37 C.F.R 1.56, the documents listed on the attached PTO-1449 are hereby disclosed.

No representation is intended to be made hereby that any of the cited references establishes, by itself or in combination with other information, a prima facie case of unpatentability of any claim of the present case.

Respectfully submitted,

By their attorney

James Allen Cox

Brian/N. Tufte./Reg. No. 38,638

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Dated: 1 25 2001

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FORM PTO-1449 (2 8 200) 2	Atty. Docket No.: 1100.1130101 (H16-25181)	Serial No.: 09/751,422
	Applicant: James Allen Co	x et al.
LIST OF PATENTS AND BUBLICATIONS FOR APPLICANTS INFORMATION		
DISCLOSURE STATEMENT	Filing Date	Group Art:
	December 29, 2000	2872

U.S. PATENT DOCUMENTS

Exam Init		Document No.	Date	Name (	Class	Sub Class	Filing Date If Appropriate
	AA	4,317,085	02/23/1982	Brunham et al.	372	50	
	AB	4,466,694	08/21/1984	MacDonald	385	37	
	AC_	4,660,207	04/21/1987	Svilans	372	45	
	AD	4,784,722	11/15/1988	Liau et al.	156	649	
	ΑE	4,885,592	12/05/1989	Kofol et al.	343	<del>753</del> 754	
	AF	4,901,327	02/13/1990	Bradley /	372	45	
	AG	4,943,970	07/24/1990	Bradley	372	45	
	AH	4,956,844	09/11/1990	Goodhue et al.	372	44	
	AI	5,031,187	07/09/1991	Orenstein et al.	372	50	
	AJ	5,052,016	09/24/1991	Mahbobzadeh	372	96	
	AK	5,056,098	10/08/1991	Anthony et al.	372	45	
	AL	5,062,115	10/29/1991 /	Thornton	372	50	, S
	AM	5,068,869	11/26/1991	Wang et al.	372	45	RE FAY
	AN	5,115,442	05/19/1992	Lee et al.	372	45 \$	Y3 73
	AO	5,140,605	08/18/1992	Paoli et al.	372	50 🖹	1 2 1 2
SOR	/AP	5,158,908	10/27/1992	Blonder et al.	43%	32 <sub>129</sub> 8	2001
	AQ	5,216,263	06/0/1/1993	Paoli	257	88	
	AR	5,216,680	06/01/1993	Magnusson et al.	372	20	
	AS	5,237,581	08/17/1993	Asada et al.	372	45	
	ΑT	5,245,622	09/14/1993	Jewell et al.	372	45	
	AU	5,258,990	11/02/1993	Olbright et al.	372	46	
	AV	5,285,466	02/08/1994	Tabatabaie	372	92	
	AW	5,293,392	03/08/1994	Shieh et al.	372	45	
	AX	5,317,170	05/31/1994	Paoli	257	88	
	AY	5,317,587	05/31/1994	Ackley et al.	372	45	

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



**FORM PTO-1449** 

LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT

Atty. Docket 1	No.:
1100.1130101	

Serial No.: 09/751,422

Applicant: James Allen Cox et al.

Filing Date Group Art:

December 29, 2000 2872

Exam		Document No.	Date	Name	Class	Sub Class	Filing Date If Appropriate
	ΑZ	5,325,386	06/28/1994	Jewell et al.	/372	50	_
	BA	5,331,654	07/19/1994	Jewell et al.	372	45	
	вв	5,337,074	08/09/1994	Thornton	346 <sup>34</sup> 7	1 <del>07K</del>	
	BC	5,349,599	09/20/1994	Larkins	372	50	
	BD	5,351,256	09/27/1994	Schneider et al.	372	45	
	BE	5,359,447	10/25/1994	Hahn et alx	359	154	
	BF	5,359,618	10/25/1994	Lebby et al.	372	45	
	BG	5,363,397	11/08/1994	Collins et al.	372	92	
	ВН	5,373,520	12/13/1994	Shoji et al.	372	45	
	BI	5,404,373	04/04/1995	Cheng	372	50	
CXXXX	BJ	5,416,044	05/16/1995	Chino et al.	43%	<sub>129</sub> .39	7c
- Ol	BK	5,428,634	06/27/1995	Bryan et al.	372	45	280 7
	BL	5,446,754	08/29/1995	ewell et al.	372	50	
	BM	5,475,701	12/12/1995	Hibbs-Brenner	372	50	
	BN	5,513,202	04/30/1996	Kobayashi et al.	372	96 ह	/E[
	во	5,530,715	06/25/1996	Shieh et al.	372	96	)
	BP	5,555,255	09/10/19/96	Kock et al.	372	96	
	BQ	5,557,626	09/17/1/996	Grodinski et al.	372	45	
	BR	5,561,683	10/01/1996	Kwon	372	96	
	BS	5,568,499	10/2/2/1996	Lear	372	45	
	вт	5,598,300	01/28/1997	Magnusson et al.	359	566	
	BU	5,606,572	02/25/1997	Swirhun et al.	372	96	
	BV	5,642,376	06/24/1997	Olbright et al.	372	45	
	BW	5,727,013	03/10/198	Botez et al.	372	96	
	BX	5,774,487	06/30/1998	Morgan	372	45	

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TRADEMARK	Applicant: James Allen Cox et al.				
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION					
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	December 29, 2000	2872			

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Examiner Initial Document No.		Date		Name	Class	Sub Class	Filing Date If Appropriate	
BY	5,778,018	07/	07/1998	Yo	shikawa et al.	372	45	v . 3
BZ	5,818,066	10/	06/1998	Du	boz	257/	21	
CA	5,903,590	05/	11/1999	Ha	dley et al.	3/12	96	
СВ	5,940,422	08/	17/1999	Joh	nson	/372	45	70
CC	5,978,401	11/	02/1999	Mo	organ	372	50	N
CD	6,055,262	04/	25/2000	Co	x et al.	372	96	RE MAT BOO
FOREIGN PATENT DOCUMENTS								
	Document No.		Date	;	Country	Class	Sub E Class	Translation Yes No
CE	JP 5-299779		11/12/19	993	Japan /			Yes
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)								
CF	Banwell et al., "VCSE Laser Transmitters for Parallel Data Links", <u>IEEE Journal of Quantum Electronics</u> , Vol. 29, No. 2, February 1993, pp. 635-644.							
CG	Catchmark et al., "High Temperature CW Operation of Vertical Cavity Top Surface-Emitting Lasers", CLEO 1993, p. 138. (No Mark)							
СН	Chemla et al., "Nonlinear Optical Properties of Semiconductor Quantum Wells", Optical Nonlinearities and Instabilities in Semiconductors, Academic Press, Inc., Copyright 1988, pp. 83-120. (no month)							
CI	Choa et al., "High-Speed Modulation of Vertical-Cavity Surface-Emitting Lasers", <u>IEEE Photonics</u> <u>Technology Letter</u> , Vol. 3, No. 8, August 1991, pp. 697-699.							
CJ	G. G. Ortiz, et al., "Monolithic Integration of In0.2 GA0.8As Vertical Cavity Surface-Emitting Lasers with Resonance-Enhanced Quantum Well Photodetectors", <u>Electronics Letters</u> , Vol. 32, No. 13, June 20, 1996, pp. 1205-1207.							
СК	Graf, Rudolph, <u>M</u> 1984, p. 694.		n Dictions	ary of	f Electronics, 6 <sup>th</sup> ed., Ir	ndiana: Ho	ward W. Sa	ms & Company,

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Jewell et al., "Surface Emitting Microlasers for Photonic Switching & Intership Connections", Optical Engineering, Vol. 29, No. 3, pp. 210-214, March 1990.

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	СМ	Jewell et al., "Surface-Emitting Microlasers for Photonic Switching and Interchip Connections", Optical Engineering, Vol. 29, No. 3, March 1990, pp. 210-214.
(	(CN)	Kishino et al., "Resonant Cavity-Enhanced (RCE) Photodetectors", <u>IEEE Journal of Quantum Electronics</u> , Vol. 27, No. 8, pp. 2025-2034.
ĺ	$\overline{co}$	Kuchibhotla et al., "Low-Voltage High Gain Resonant_Caylty Avalanche Photodiode", IEEE Phototonics Technology Letters, Vol. 3, No. 4, pp. 354-356.
	(P)	Lai et al., "Design of a Tunable GaAs/AlGaAs Multiple-Quantum-Well Resonant Cavity, Photodetector", IEEE Journal of Quantum Electronics, Vol. 30, No. 1, pp. 108-114.  Lee et al., "Top-Surface Emitting GaAs Four-Quantum-Well Lasers Emitting at 0-85 um;",
	$\bigcirc$	Lee et al., "Top-Surface Emitting GaAs Four-Quantum-Well Lasers Emitting at 0-85 up;", Electronics Letters, Vol. 24, No. 11, May 24, 190, pp. 710-711.
	CR	Lehman et al., "High Frequency Modulation Characteristics of Hybrid Dielectric/AKGaAs Mirror Singlemode VCSELs", Electronic Letters, Vol. 31, No. 15, July 20, 1995, pp. 1251-1252.
	cs	Miller et al., "Optical Bistability Due to increasing Absorption", Optics Letters, Vol. 9, No. 5, May 1984, pp. 162-164.
	СТ	Morgan et al., "200 C, 96-nm Wavelength Range, Continuous-Wave Lasing from Unbonded GaAs MOVPE-Grown Vertical Cavity Surface-Emitting Lasers", <u>IEEE Photonics Technology Letters</u> , Vol. 7, No. 5, May 1995, pp. 441-443.
	CU	Jiang et al., "High-Frequency Polarization Self-Modulation in Vertical-Cavity Surface-Emitting Lasers", Appl. Phys. Letters, Vol. 63, No. 26, December 27, 1993, pp. 2545-2547.
	CV	Morgan et al., "High-Power Coherently Coupled 8x8 Vertical Cavity Surface Emitting Laser Array", Appl. Phys Letters, Vol 61, No. 10, September 7, 1992, pp. 1160-1162.
	CW	Morgan et al., "Hybrid Dielectric/AlGaAs Mirror Spatially Filtered Vertical Cavity Top-Surface Emitting Laser", Appl. Phys. Letters, Vol. 66, No. 10, March 6, 1995, pp. 1157-1159.
	CX	Morgan et al., "Novel Hjorid-DBR Single-Mode Controlled GaAs Top-Emitting VCSEL with Record Low Voltage", 2 pages, dated prior to December 29, 2000.
	CY	Morgan et al., "Progress and Properties of High-Power Coherent Vertical Cavity Surface Emitting Laser Arrays", <u>SPIE</u> , Vo. 1850, January 1993, pp. 100-108.
	CZ	Morgan et al., "Progress in Planarized Vertical Cavity Surface Emitting Laser Devices and Arrays", SPIE, Vol. 1562, July 1991, pp. 149-159.
	DA	Morgan et al., "Submilliamp, Low-Resistance, Continuous-Wave, Single-Mode GaAs Planar Vertical-Cavity Surface Emitting Lasers", Honeywell Technology Center, June 6, 1995.

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RM PTO-1449	MAY 2 9 2001 3	Atty. Docket No.: 1100.1130101 (H16-25181	Serial No.: ) 09/751,422
	THE SE	Applicant: James Allen C	ox et al.
LIST OF PATE	NTS AND IN BLICATIO	NS FOR	
	CANT'S INFORMATION		
DISCI	LOSURE STATEMENT	Filing Date	Group Art:

December 29, 2000

DB	Morgan et al., "Transverse Mode Control of Vertical-Cavity Top-Surface Emitting Lasers", <u>IEEE Photonics Technology Letters</u> , Vol. 4, No. 4, April 1993, pp. 374-377.
DC	Morgan et al., "Vertical Cavity Surface Emitting Laser Arrays: Come of Age,", Invited paper, SPIE, Vol. 2683-04, OE LASE 96; Photonics West: Frabrication, Testing and Reliablity of Semiconductor Lasers, (SPIE < Belling and WA, 1996).
DD	Morgan et al., "Vertical-Cavity Surface-Emitting Laser Arrays" SPIE, Vol. 2398, February 1995, pp. 65-93.
DE	Morgan, "High-Performance, Producible Vertical Cavity Lasers for Optical Interconnects", High Speed Electronics and Systems, Vol. 5, No. 4, December 1994, pp. 65-95.
DF	Morgan, "Transverse Mode Control of Vertical-Cavity Top-Surface Emitting Lasers", <u>IEEE Phot.</u> Tech. Lett., Vol. 4, No. 4, p. 374, April 1993.
DG	Nugent et al., "Self-Pulsations in Vertical-Cavity Surface-Emitting Lasers", <u>Electronic Letters</u> , Vol. 31, No. 1, January 5, 1995, pp. 43-44.
DH	U.S. Patent Application Serial No. 09/751,423, filed December 29, 2000, entitled "Spatially Modulated Reflector for an Optoelectronic Device".

TC 2800 MAIL ROOM

2872

**EXAMINER:** 

**FORM PTO-1449** 

DATE CONSIDERED: